

New Species of Leafhoppers Found in South America

A new insect species belonging to the leafhopper tribe Megophthalmini has been discovered in the Andes Mountains of Tachira, Venezuela. It's the first record of this subfamily being found in the New World south of Mexico. Of the 20,000 known species of leafhoppers, more than 170 transmit crop diseases. Many attack U.S. crops such as corn, rice, citrus, peaches, tomatoes, potatoes, and sugar beets. Farmers' efforts to control leafhoppers have been hampered by the insects' seasonal migration—often from noncrop plants that harbor crop diseases. The extent of this disease reservoir is not well known, because too little is known about the leafhoppers' plant preferences.

These Megophthalmini leafhoppers—previously known only in North America, Africa, and Europe—have novel traits that point to relationships to other leafhopper subfamilies. Although the new species is not a crop pest, some of its relatives are. Better understanding of its familial relationships can lead to more accurate predictions of any leafhoppers' pest potential, but this task has been hampered by major gaps in knowledge of various leafhopper groups including the Megophthalmini.

Knowing an insect's identity is the first step in controlling it. And it helps USDA's Animal and Plant Health Inspection Service intercept invasive species—those not indigenous to the United States—at U.S. ports of entry. *Stuart H. McKamey, USDA-ARS Systematic Entomology Laboratory, Washington, D.C.; phone (202) 382-1779, e-mail smckamey@sel.barc.usda.gov.*

Biofungicide Treats Apples and Oranges Alike

Apples and oranges are all the same to biofungicides. First introduced in the United States 4 years ago via ARS patents, these nontoxic biological coatings are replacing synthetic chemicals for controlling rot-causing fungi on apples,

pears, and citrus after harvest. Now, ARS has signed an agreement with the Micro-Flo Company of Memphis, Tennessee, to finish developing next-generation biofungicides for fruit packinghouses. Micro-Flo expects to have a product on the market within 2 years.

Unlike earlier biofungicides, the new coating has a kickback effect that stops fungi already having a toehold on the fruit. It combines two bioactive substances with *Candida saitoana* yeast, which is innocuous to people but a formidable competitor against fruit-attacking fungi.

The coating's bioactive substances are chitosan—a naturally occurring fiber found in some weight-loss products—and a synthetic sugar used as a glucose substitute. Chitosan acts as a natural fungicide and turns on defensive enzymes in the fruit itself. It also forms a film on the fruit that holds in carbon dioxide, thus increasing shelf life. The synthetic sugar tricks the fungi into perceiving it as food—but they can't use it. Under the new agreement, Micro-Flo and ARS scientists will optimize the coating's formulation and fine-tune its application. *Charles L. Wilson, USDA-ARS Appalachian Fruit Research Station, Kearneysville, West Virginia; phone (304) 725-3451, ext. 330, e-mail cwilson@afers.ars.usda.gov.*

Toward Safer Fresh-Cut Tomatoes, Melons

Most of the fresh-cut produce market's 20-percent annual growth is in vegetables. While retailers have long sought a way to offer consumers fresh-cut tomatoes and melons, they haven't pursued that market beyond local or regional fresh-cut processing because of product quality problems and food safety concerns caused by inadequate cold temperatures during distribution.

In the past, melons and tomatoes have been associated with *Salmonella*, which heads the list of common causes of food-borne illnesses. About 40,000 cases of

salmonellosis are reported annually, according to the federal Centers for Disease Control and Prevention in Atlanta, Georgia.

Now ARS scientists have entered into a 2-year cooperative research and development agreement with EPL Technologies, Inc., of Philadelphia,

SCOTT BAUER (K4667-6)



In a few years, supermarkets may sell packaged fresh-cut tomatoes, melons, and other fruits if researchers find novel methods for killing or removing disease-causing bacteria.

Pennsylvania, to develop novel methods for killing or removing disease-causing bacteria from fresh-cut fruits. Under the agreement, the scientists will seek alternatives to common sanitizing agents, such as chlorine, that are used to wash fresh-cut foods. This research should allow fresh-cut manufacturers to expand their markets and make healthy fresh-cut products available to a larger group. Successful introduction of these products will be a major boon to growers and shippers. *Gerald M. Sapers, USDA-ARS Plant Science and Technology Research Unit, Wyndmoor, Pennsylvania; phone (215) 233-6417, e-mail gsapers@ars.errc.gov.*